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Supply Chain Management and Practices of Firm Performance: A Review Paper

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Abstract

Objective

The aim of this study is to discover the components of green supply chain management (GSCM) practices and their outcome in terms of economic performance, environmental performance, and social performance .

Methods

Researchers have performed a focused search for articles on (1) green supply chain management (GSCM) practices (2) economic performance, environmental performance, and social performance, in four major databases: Web of Science, Science Direct, IEEE Xplore and Scopus. Those databases are deemed broad enough to cover both green supply chain management and outcomes performances literature.

Results

The final set included 80 articles. Most articles are reviewed and surveys that refer to actual literature to describe green supply chain management for a specific specialty, or purpose; or to provide a general overview of the green supply chain management. Another group carried various studies, from evaluation of its performances.

Conclusions

Research on green supply chain management (GSCM) is active and various. We hope that this survey contribute to the understanding of the available options, and for other researchers to join this line of research.

Keywords: Green Supply Chain Management, economic performance, environmental performance, and social performance.

Introduction

In this research a content analysis was preformed consisting of twenty peer-reviewed articles from 2001 to 2015 related to the effect of Green Supply Chain Management (GSCM) Practices on firm Performance. A Green Sustainable Supply Chain can be defined as "the process of using environmentally friendly inputs and transforming these inputs through change agents - whose by products can improve or be recycled within the existing environment. This process develops outputs that can be reclaimed and re-used at the end of their life-cycle thus, creating a sustainable supply chain." the importance of manufacturing in the context of environmental sustainability may be established using management and organization theories. It is argued that natural resource view and eco-centric management idea help to guide organization's practices in relation to the natural environment. These theories delineate the differences between traditional and environmentally friendly strategic management processes including product design and production systems.

The empirical researches were able to come up with variance findings for instance , Several organizational theories including resource-based view, transaction cost economics, agency, network theory and institutional theory have been used to understand how companies adopt, assimilate, and develop operations strategy initiatives such as total quality management (Anderson et al.,1999), lean manufacturing (Ketokivi and Schroeder, 2004), and SCM/GSCM (Zhu et al., 2005, 2010; Lee and Cheong, 2011) successfully. Within the context of GSCM, actors in the supply chain operate in a way that fulfill both customer and legal requirements. Hence, pressures from government agencies and national/international regulators will influence the adoption of environmentally responsible behaviour (Rivera, 2004; Zailani et al., 2012).

Many scholars evaluated and described GSCM drivers, practices and performance among various Chinese manufacturing organizations. They used Internal Environmental Management (IEM), Eco-design (ECO), Investment Recovery (IR), and External GSCM as Practices. As for the performance measures, they used

environmental performance, operational performance, and economic performance. An exploratory factor analysis was conducted using survey questionnaire data that included 314 managers in Chinese manufacturing and processing industries that have profound impact on the environment. They found that. Although GSCM practice in Chinese enterprise lags behind the GSCM pressures and drivers, Chinese enterprises managed to achieve some environmental performance and operational performance by adopting practices of internal environmental management, eco-design and investment recovery (Zhu et al, 2005).

There is evidence to suggest that the environmental performance and the purchasing performance using five constructs of green supply management performance: green supply management capabilities, the strategic level of the purchasing department, the level of environmental commitment, the degree of green supplier assessment, and the level of green collaboration with suppliers. They formed a Structural Equation Modeling (SEM) using 109 German purchasers. The results suggest that the degree of green supplier assessment and the level of green collaboration are driven by the strategic level of the purchasing department and the level of environmental commitment of the firm, which exert direct influence on environmental performance. Furthermore, the results show that environmental performance has a positive impact on purchasing performance (Large et al. 2011).

According to Bose and Pal (2012) studied whether announcements related to GSCM create value for firms. 104 announcements related to GSCM were analyzed using an event study to determine what causes statistically significant gain in stock prices for these firms. The results show that manufacturing firms, firms with high R&D expenses, and early adopters show a strong increase in stock prices on the day of the announcement. At the same time, small firms, firms not well-known for taking green initiatives, and firms that are low in growth potential show considerable positive impact by making such announcements.

Zhua and Sarkis (2004) aimed to find the relationships, environmental and economic performance and GSCM practices comprising Internal Environmental Management (IEM), Eco-design (ECO), Investment Recovery (IR), and External GSCM. They used moderated hierarchical regression analysis with 186 respondents on GSCM practice in Chinese manufacturing enterprises. The authors find that Investment Recovery has received much less attention in Chinese manufacturing enterprises, compared to enterprises in developed countries. On the other hand, External SCM and eco-design are two emerging approaches in China and have similar significant impacts to those of developed country findings. Findings show Eco-design has

direct, positive effects on environmental performance while it has a somewhat insignificant negative impact economic performance.

Zhu et al. (2007) explored links between various Chinese manufacturing, industrial sectors' performance outcomes and initiatives. They considered internal environmental management (IEM), green purchasing (GP), customer cooperation (CC), investment recovery (IR), and eco-design (ECO). They surveyed 171 firms in four typical manufacturing, industrial sectors in China, namely, power generating, chemical/petroleum, electrical/ electronic and automobile. Using analysis of variance (ANOVA), the authors found that electrical/electronics industry attained a relatively higher level of GSCM implementation, especially in such GSCM practices as IEM, GP and IR. On the contrary, power plants and chemical/petroleum companies implemented similar levels of GSCM as compared to their electrical/electronic counterparts, but they achieve significantly lower levels of performance outcomes. The authors also noted that the automobile industry in China still lags behind other industrial sectors in terms of implementing GSCM.

Carter et al. (2006) provide an initial examination of the relationship between socially responsible actions (environmental initiatives and programs) undertaken by firms and financial performance. As noted by Al Halbusi, H., & Tehseen, S. (2017) CSR was mainly focused on the macro perspective with their great emphasis on the relationship between CSR initiatives and financial performance. This research, specifically, explores the effect of environmental purchasing on firm financial performance. Using regression analysis on 437 survey questionnaire respondents, the authors found empirical evidence linking environmental purchasing and firm performance. The findings also provide a link between environmental management and lower costs as well as increased income. Furthermore, purchasing managers can contribute to a firm's environmental initiatives with low-cost recycled packaging, package lightweighting, which not only reduces the cost of packaging, but also reduces transportation costs. In addition, Purchasing are advised to be involved in the design of products for disassembly, recycling, or reuse.

Rao and Holt (2005) study potential linkages between GSCM, economic performance and competitiveness amongst a sample of companies in South East Asia. For this purpose Survey questionnaire and conceptual model was developed. They suggested that green supply chains not only reduce cost savings, but they would also enhance sales, market share, and exploit new market opportunities.

Lee et al. (2012) explored the effect of GSCM efforts and other organizational factors on firm performance. They studied 223 Small and Medium Enterprises (SMEs) electronics industries in Korea. They examined GSCM practice and business performance through three organizational variables- employee satisfaction, operational efficiency, and relational efficiency. By surveying questionnaire and applying structured equation modelling, the authors found the Employee job satisfaction, operational and relational efficiencies have a significant effect on firms' performance.

GSCM identification is close to those of Perotti et al. (2012) and Eltayeba et al. (2011) who defined GSCM Practices as- Eco-Design (ECO), Green purchasing (GP), Environmental outcomes, Reverse logistics, Intangible outcomes, and Operational outcomes. The outcomes show that eco-design has a significant positive effect on the four types of outcomes (environmental outcomes, economic outcomes, cost reductions, and intangible outcomes). Reverse logistics were found to have a significant positive effect on cost reductions only. However, green purchasing was not found to have a significant effect on any of the four types of outcome .

A further definition is given by Green et al. (2012) who described the impact of GSCM (GSCM) practices on performance. Data was collected from 159 manufacturing managers and analyzed using a structural equation modelling methodology. The researcher found that adoption of GSCM practices by manufacturing organizations leads to improved environmental performance and economic performance, which, in turn, positively impact operational performance .

Hervani (2005) introduced an overview of the various issues related to environmental (green) supply chain management performance, Green Purchasing (GP) Green Manufacturing/Materials Management Green Distribution/Marketing Reverse Logistics. The used case studies and Cross-case Analysis related to performance measurement in environmental supply chains. The authors provide an integrative framework for study, design and evaluation of GSCM performance tools.

There is some evidence to suggest that the environmental proactivity and business performance and considered GSCM on production and operations manager of 186 Spanish companies which used questionnaires and focused on the environmental practices related to the change of logistics processes contribute to lean operational performance, at the same time as these practices related to product design develop marketing performance. Consequently the environmental proactivity certainly has a

significant effect on operational performance objectives and on marketing performance (Benito et al, 2005).

Chin et al. (2015) identified two-fold review on the relationship between GSCM (GSCM), environmental collaboration and sustainability performance and propose a plausible conceptual model to elucidate the relationship between these three variables in the context of Malaysian manufacturing companies in 2013. In view of this matter, environmental collaboration has been proposed as a moderator of the link between GSCM practices and sustainability performance. The presence of the environmental collaboration is expected to facilitate GSCM practices, which would ease the implementation of GSCM practices. The establishment of long-term collaborative relationship characterized by strong inter-organizational interactions would facilitate firms to pursue GSCM practices .

In 2015 Diab et al tried to figure out the impact of GSCM practices on organizational performance. The researchers chose six firms specialized in industrial sector in Jordan, which applied the concept of green manufacturing, Internal Environmental Management (IEM), Customers, Collaboration (CC), Green Purchasing (GP), Eco-Design and Packaging (ECO), and Warehousing and Green Building. The results show there is a positive impact of GSCM practices and its elements on organizational performance .

Diabat et al. (2013) examined the green supply chain practices and performances in an automotive industry. They considered the practices of GSCM (GSCM) such as- Internal environmental management (IEM), Eco-Design (ECO), Investment recovery (IR), Green purchasing (GP), Customer Cooperation (CC), Environmental practices in operational fields, Reverse logistics etc. On the other hand, they analysed Environmental performance, economic performance, Operational performance and Intangible performances as proxy for measuring GSCM performances. After conducting questionnaire survey on 50 experts including supply chain managers, purchasing managers, environmental management representatives, and other managerial staff, they found that design for environment, cooperation with customers, and reverse logistics are the top three GSCM practices which should be implemented to improve their GSCM performances .

Further examine the effect of GSCM practices on firm performance. They surveyed 230 South Korean manufacturers. They took Eco-design (ECO), Investment recovery (IR) & Environmental performance as proxy for GSCM (GSCM). They measured the firm performance through profitability, market share, sales growth and

earnings per share. Conducting factor analysis and hierarchical regression, they revealed that Eco-design and Investment recovery both are positively related to environmental performance and financial performance (Choi and Hwang, 2015.(

Younis et al. (2016) surveyed manufacturing industry in the UAE. They measured the GSCM (GSCM) through Eco-design (ECO), Green purchasing (GP), Environmental cooperation and Reverse logistics. The authors found that there is a positive relationship between the presence of formal certified Environmental Management System (EMS) and improved performance, such as reduced costs, improved quality, and reduction of waste in the design and equipment selection process and reduction of lead times.

A sample of 190 ISO 14001 certified manufacturing companies in Thailand. They took the variables- Green Purchasing (GP), Eco-Design & packaging (ECO), Reverse Logistics Practices and Green Legislation and Regulations for measuring the practices of GSCM (GSCM). On the other hand, they took Environmental Performance, Economic Performance and Intangible Performance variable as for firm performance. Through multiple regression analysis, they revealed that Quality and time-based strategy is positively related to environmental performance, economic performance, and intangible performance (Laosirihongthong et al, 2013). Also King and Lenox (2001) analyzed 652 U.S. manufacturing firms constituting 4483 firm-year observations. The researchers used Environmental Performance, Relative Emissions and Industry Emissions as a proxy of GSCM (GSCM) practice. Tobin's Q was used for measuring firm performance. They found that Environmental performance is associated with financial performance. Firms with lower emissions in their industries tend to experience higher financial performance in the subsequent year.

Finally, after conducting the content analysis, it is evident that GSCM practices- such as Internal Environmental Management, Green Purchasing, Customer Cooperation, Investment Recovery, Eco-Design etc. have significant positive impact on corporate performance, namely the triple bottom line, operational performance, marketing performance, and sustainability performance. Apart from the findings of this study, we would like to point out minor caveats. The researcher has analysed with twenty articles only, therefore findings should be interpreted cautiously.

References :

Ai Chin.T., Hon Tat. H. & Sulaiman.Z., 2015,'GSCM, Environmental Collaboration and Sustainability Performance'. Procedia CIRP, 26, 695 – 699.

Al Halbusi, H., & Tehseen, S. (2017). Corporate Social Responsibility (CSR): A Literature Review. Malaysian Journal of Business and Economics (MJBE .(

Anderson, S.W., Daly, J.D. and Johnson, M.F. 1999, 'Why firms seek ISO 9000 certification: regulatory compliance or competitive advantage?', Production and Operations Management, Vol. 8 No. 1, pp. 28-43.

Bose.I. & Raktim. P., 2012, 'Do GSCM initiatives impact stock prices of firms? ', Decision Support Systems, 52 , 624–634.

Carter. C.R., Kale. R.& Grimm.G.M., 2006,'Environmental purchasing and firm performance: an empirical investigation', Transportation Research Part E, 36 , 219-228.

Choi, D. & Hwang, T., 2015, 'The impact of GSCM practices on firm performance: the role of collaborative capability', Operations Management Research, 8, 69–83.

Diab.S.M., AL-Bourini.F.A & Abu-Rumman, A.H., 2015,'The Impact of GSCM Practices on Organizational Performance: A Study of Jordanian Food Industries' Journal of Management and Sustainability, Vol. 5, No. 1 .

Diabat, A., Khodaverdi, R. & Olfat, L., 2013, 'An exploration of green supply chain practices and performances in an automotive industry', The International Journal of Advanced Manufacturing Technology, 68, 949–961.

Eltayeb. T. K., Zailani. S. & Ramayah., 2011, 'Green supply chain initiatives among certified companies in Malaysia and environmental sustainability: Investigating the outcomes', Resources, Conservation and Recycling. 55, 495–506 .

Gonzalez-Benito. J. & Gonzalez-Benito.S., 2005, 'Environmental proactivity and business performance: an empirical analysis', Omega 33 ,1 – 15 .

Green Jr. K.W., Zelbst. P.J., Meacham. J. & Bhadauria. V.S., 2012, 'GSCM practices: impact on performance', Supply Chain Management: An International Journal, Vol. 17 Iss 3 pp. 290 - 305

Hervani. A. A., Helms. M. M.& Sarkis. J., 2005),'Performance measurement for GSCM', Benchmarking: An International Journal, Vol. 12 Iss 4 pp. 330 – 353.

Ketokivi, M.A. and Schroeder, R.G., 2004, ‘Strategic, structural contingency and institutional explanations in the adoption of innovative manufacturing practices’, Journal of Operations Management, Vol. 22 No. 1, pp. 63-89.

King, A. & Lenox, M., 2001, ‘Does It Really Pay to Be Green? An Empirical Study of Firm Environmental and Financial Performance: An Empirical Study of Firm Environmental and Financial Performance’, The Journal of Industrial Ecology,5 (1), 105–116

Laosirihongthong, T., Adebanjo, D. & Tan, K. C., 2013, ‘GSCM practices and performance’, Industrial Management & Data Systems 113 (8), 1088 – 1109.

Large. R. O. & Thomsen. C. G., 2011,’Drivers of green supply management performance: Evidence from Germany’, Journal of Purchasing & Supply Management, 17,176–184.

Lee, K.-H. and Cheong, I.-M., 2011, ‘Measuring a carbon footprint and environmental practice: the case of Hyundai Motors Co. (HMC)’, Industrial Management & Data Systems, Vol. 111 No. 6, pp. 961-978.

Lee. S.M., Tae Kim. S. & Choi. D., 2012,‘Green supply chain practices and company performance’, Industrial Management & Data Systems, Vol. 112 Iss 8 pp, 1148 – 1180.

Perotti. S., Zorzini.M., Cagno. E.& J.L. Micheli. G., 2012, ‘Green supply chain practices and company performance: the case of 3PLs in Italy’, International Journal of Physical Distribution & Logistics Management, Vol. 42 Iss 7 pp. 640 – 672 .

Rao. P. & Holt. D., 2005, ‘do green supply chains lead to competitiveness and economic performance? ‘, International Journal of Operations & Production Management, Vol. 25 Iss 9 pp. 898 – 916 .

Rivera, J., 2004, ‘Institutional pressures and voluntary environmental behavior in developing countries: evidence from the Costa Rican hotel industry’, Society and Natural Resources, Vol. 17, pp. 779-797.

Younis, H., Sundarakani, B. & Vel, P., 2016, ‘The impact of implementing GSCM practices on corporate performance’, Competitiveness Review, 26 (3), 216 – 245.

Zailani, S.H.M., Eltayeb, T.K., Hsu, C.C. & Tan, K.C.,2012), ‘The impact of external institutional drivers and internal strategy on environmental performance’,

International Journal of Operations & Production Management, Vol. 32 No. 6, pp. 721-745.

Zhu. Q., & Sarkis. J., 2004,'Initiatives and outcomes of GSCM implementation by Chinese manufacturers', Journal of Environmental Management, 85, 179–189.

Zhu. Q., Joseph Sarkis. J. & Geng. Y., 2005,'GSCM in China: pressures, practices and performance', International Journal of Operations & Production Management, Vol. 25 Iss 5 pp. 449 – 468 .

Zhu. Q., Sarkis. J.& Lai. K., 2007,'Relationships between operational practices and performance among early adopters of GSCM practices in Chinese manufacturing enterprises, Journal of Operations Management, 22 , 265–289.